

## ABSTRACT

The present invention relates to a gene for an enzyme involving in the synthesis of GDP-L-fucose. Particularly, the present invention relates to a GDP-4-keto-6-deoxy-D-mannose-3, 5-epimerase-4-reductase gene derived from *Arabidopsis thaliana*, and a process for producing GDP-L-fucose using the gene. An enzyme encoded by the gene is (a) a protein comprising an amino acid sequence represented by SEQ ID NO: 1; or (b) a protein comprising an amino acid sequence derived from the amino acid sequence of SEQ ID NO: 1 by deletion, substitution, addition or insertion of one or several amino acid residues, and having GDP-4-keto-6-deoxy-D-mannose-3, 5-epimerase-4-reductase activity. The present invention enables efficient mass production of GDP-L-fucose which is essential in performing addition of fucose, which has a very important function in sugar chains.